

**REMARKS**

Reconsideration of the instant application is respectfully requested. The present amendment is responsive to the Office Action of January 30, 2006, in which claims 1-90 were previously pending. Of those, claims 31-90 have been withdrawn from consideration as being directed toward a nonelected invention. Claims 1-30 pending following the filing of an RCE dated December 3, 2004.

Claims 1-30 have now been rejected under rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. For the following reasons, however, it is respectfully submitted that the application is now in condition for allowance.

Claim 1 has been amended to address the §112, second paragraph rejections to claims 1-30, and is reproduced in clean format below:

1. A method of measuring operational boundaries of a gas turbine engine and translating the measured operational boundaries into control schedules for a control associated with the gas turbine engine, said method including:

determining a first burner dome to be adjusted in said gas turbine engine for a first burner mode;

adjusting a ring flame temperature at said first burner dome in said gas turbine engine to determine a maximum ring flame temperature operational boundary for said first burner dome;

recording into memory a plurality of parameters from a plurality of sensors coupled to said gas turbine engine operating at said maximum ring flame temperature operational boundary;

adjusting said ring flame temperature at said first burner dome in said gas turbine engine to determine a minimum ring flame temperature operational boundary for said first burner dome;

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recording into memory a plurality of parameters from said plurality of sensors coupled to the gas turbine engine operating at said minimum ring flame temperature operational boundary;

subtracting a minimum ring flame temperature corresponding to said minimum ring flame temperature operational boundary from a maximum ring flame temperature corresponding to said maximum ring flame temperature operational boundary to determine a temperature window size;

defining a nominal ring flame temperature by calculation from the minimum and maximum ring flame temperatures when said temperature window size is greater than a predetermined minimum window size;

adjusting the ring flame temperature in said first burner dome to said nominal ring flame temperature; and

recording into memory a plurality of parameters from said sensors coupled to the gas turbine engine operating at said nominal ring flame temperature.

With regard to the preamble of claim 1, the Applicants have replaced "mapping a combustor in a gas turbine engine" with -- measuring operational boundaries of a gas turbine engine and translating the measured operational boundaries into control schedules for a control associated with the gas turbine engine--. This amendment more precisely defines what is meant by "mapping a combustor," and is explained in paragraphs [0003] and [0004] of the specification. Because the body of the claim recites steps such as "determining," "adjusting," and "recording," this language does teach and suggest how operational boundaries of a gas turbine are measured and translated into control schedules. Accordingly, the Applicants respectfully submit the §112 rejections on this ground have been overcome.

Next, with regard to the lack of antecedent basis for the term "said plurality of sensors," the first instance thereof in claim 1 has been amended to read --a plurality of sensors--. However, the Applicants point out the term "said temperature window size" that appears after the

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term "defining a nominal ring flame temperature..." has proper antecedent basis as seen from the previous claim element "subtracting a minimum ring flame temperature...". The Applicants respectfully submit that any antecedent basis defects in claim 1 have now been addressed and/or resolved.

With regard to the Examiner's determination that the term "minimum" as it relates to "ring flame temperature boundary" is indefinite, the Applicants have amended claim 1 to read: minimum (maximum) ring flame temperature operational boundary. As described in paragraph [0020] of the specification, a combustor mode is limited by operational boundaries that include for example, "bleed modulation" and minimum/maximum ring flame temperature limits. Thus, by adding term "operational" in conjunction with "boundary," claim 1 now more specifically points out that by adjusting the ring flame temperature, the minimum and maximum flame temperature operational boundaries may be determined. The Applicants therefore respectfully submit that both the terms "minimum" and "maximum" in this context have been appropriately clarified. It will also be noted that dependent claims 9-13, 16-18 and 21-28 are also amended to provide the term "operational" prior to "boundary."

Further, with regard to the term "nominal," claim 1 has also been amended to more particularly point out that a nominal ring flame temperature is defined by calculation from the minimum and maximum ring flame temperatures. As to the term "nominal" itself, it is known in the engineering arts that "nominal" generally signifies the subject being "normal" or in accordance with engineering specifications. Thus, in the present claims, nominal operating temperature may be defined as a ring flame temperature that is considered to be normal or in accordance with specifications. As such, the Applicants therefore respectfully submit that the terms "nominal" and "maximum" has been appropriately clarified.

Finally, with regard to the objection to claim 1 outlined on pages 3-4 of the Office Action, the Applicants have reviewed the same and respectfully submit that the limitation concerning "adjusting a ring flame temperature at said first burner dome in said gas turbine engine to determine a ... boundary for said first burner dome" has not in fact been repeated. In fact, the missing part of the claim language covered by the ellipsis (...) makes this apparent. In the first recitation, the ring flame temperature is adjusted to determine the maximum temperature

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boundary, and in the second recitation to determine the minimum temperature boundary. Therefore, since these two phrases actually recite different steps, the Examiner's objection in this regard should be withdrawn.

Accordingly, the Applicants respectfully submit that the present amendment to claim 1 overcomes each of the outstanding objections and rejections to the pending claims, reconsideration and withdrawal of the Restriction requirement during the examination of the claims in light of the newly cited references.


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For the above stated reasons, it is respectfully submitted that the present application is now in condition for allowance. No new matter has been entered and no additional fees are believed to be required. However, if any fees are due with respect to this Response, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys. If the Examiner has any queries regarding the presently submitted response, the Applicants' attorney respectfully requests the courtesy of a telephone conference to discuss the same.

Respectfully submitted,  
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